

# Invasive Species Curriculum

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This curriculum contributes to education about invasive species. We hope students and teachers use it to improve their awareness and understanding of these issues so that they can make better decisions and help prevent plant and animal invasions. Please use these activities, let us know what you think, and check for updates by going to:

<http://www.tbep.org/eyesonthebay.html#1>

[http://www.flseagrant.org/program\\_areas/ecosystem\\_health/ecohealth\\_cp.htm#invasive](http://www.flseagrant.org/program_areas/ecosystem_health/ecohealth_cp.htm#invasive)

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## *Introduction*

Invasive species have been introduced into an area that is not part of their natural range, and they cause harm to the economy, the environment or human health. We should all be concerned about invasive species and the harm they cause. First, we want to avoid harmful consequences from introductions. Second, our actions or activities can spread invasive species, so we are responsible for managing both introductions and consequences. Managing invasive species is not simply a matter of banning all introductions, because all of us benefit from some introductions. In addition, many introductions are accidental or unintentional.

People began introducing species as soon as they could travel. For example, Europeans transported Old World species to their new settlements in the Western Hemisphere and elsewhere. The cargo manifests from Columbus' second and subsequent voyages indicate deliberate transport of species regarded as potential crops and livestock. Humans continue to disperse species today, and the worldwide increase in plant, animal, and microbial introductions roughly tracks the increase in human transport and commerce. In particular, the meteoric growth of global commerce in the past 200 to 500 years has produced numerous opportunities for biotic invasions.

Introduced species often do not survive and reproduce. Therefore, they seldom establish themselves and become invasive. Introducing species without management can be viewed as an ecological parallel to Russian roulette. We 'load bullets into a gun and spin its cylinder' by moving species beyond their natural ranges. Then, we 'pull the trigger' by introducing species into new ranges and take our chances on whether they cause harm by establishing and spreading. As in any game of chance, the outcome of a given round is uncertain. We may introduce numerous species or one species numerous times and suffer no significant consequences, or we may introduce a single species once and generate immense harm.

Management of invasive species occurs at the international, national and state levels. Management plans at all levels typically recognize prevention or control of introductions as the key to success. Once a species establishes and spreads, eradication or control becomes far more costly and less likely. Surveillance for non-native species and rapid removal before they establish and spread is the second best defense. Management plans also recognize the need for research, education and outreach. Gathering and disseminating better information can help us manage invasive species. For example, informed decision-makers should make better choices about large-scale, intentional introductions, and an informed public can modify its behavior to prevent small-scale intentional or accidental introductions.